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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/628,599      | 07/28/2000  | Ian R. Finlay        | 12780-1015          | 3713             |

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EXAMINER

LY, ANH

ART UNIT

PAPER NUMBER

2172

DATE MAILED: 10/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/628,599

Applicant(s)

FINLAY ET AL.

Examiner

Anh Ly

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☒ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-22 are pending in this application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-3, 6-7, 10-12, 15-16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 5, 386,557 issued to Boykin et al. (herein Boykin).

With respect to claim 1, Boykin discloses (a) determining from the access plan an executable function associated with a first operation code (access plan contains low-level interpreted code which has been compiled from database access language such as SQL and the thread, item 50, containing code for performing the function of the SQL statement (see fig. 1, and fig. 2, col. 3, lines 60-67 and col. 4, lines 20-25; also see col. 5, lines 35-49); and (b) augmenting said first operation code in the access plan with a pointer to said executable function (item 54 IUDO containing pointers to any data values being necessary to perform the execution of the operations: col. 4, lines 44-65 and col. 6, lines 36-42).

With respect to claim 2, Boykin discloses the remaining operation codes in the access plan (col. 5, lines 35-62).

With respect to claim 3, Boykin discloses augmenting said first operation code in the access plan with a pointer to an intermediate function, said intermediate function including a data structure for storing a pointer to said executable function (col. 4, lines 20-32 and lines 44-65).

With respect to claim 6, Boykin discloses assessing the executable function associated with the first operation code and if applicable, replacing the call to the executable function with a call to a second executable function (col. 9, lines 2-7).

With respect to claim 7, Boykin discloses intermediate function includes processing operations for the first operation code or the executable function associated with the first operation code (col. 4, lines 44-65).

Claim 10 is essentially the same as claim 1 except that it is directed to a computer program product rather than a method (see fig. 1, and fig. 2, col. 3, lines 60-67 and col. 4, lines 20-25; also see col. 5, lines 35-49; and item 54 IUDO containing pointers to any data values being necessary to perform the execution of the operations: col. 4, lines 44-65 and col. 6, lines 36-42), and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 11 is essentially the same as claim 2 except that it is directed to a computer program product rather than a method (col. 5, lines 35-62), and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 12 is essentially the same as claim 3 except that it is directed to a computer program product rather than a method (col. 4, lines 20-32), and is rejected for the same reason as applied to the claim 3 hereinabove.

Claim 15 is essentially the same as claim 6 except that it is directed to a computer program product rather than a method (col. 9, lines 2-7), and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 16 is essentially the same as claim 7 except that it is directed to a computer program product rather than a method (col. 4, lines 44-65), and is rejected for the same reason as applied to the claim 7 hereinabove.

Claim 19 is essentially the same as claim 1 except that it is directed to a system rather than a method (see fig. 1, and fig. 2, col. 3, lines 60-67 and col. 4, lines 20-25; also see col. 5, lines 35-49; and item 54 IUDO containing pointers to any data values being necessary to perform the execution of the operations: col. 4, lines 44-65 and col. 6, lines 36-42), and is rejected for the same reason as applied to the claim 1 hereinabove.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 4-5, 8-9, 13-14, 17-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,386,557 issued to Boykin et al. (herein Boykin) in view of US Patent No. 5,822,750 issued to Jou et al. (herein Jou).

With respect to claims 4-5, Boykin discloses the method as discussed in claim 1.

Boykin does not explicitly indicate, "data structure includes means for storing information; and data structure providing means for storing information."

However, Jou discloses data structure for storing information as claimed (col. 10, lines 10-67, col. 11, lines 1-14 and also see col. 3, lines 20-36).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Boykin with the teachings of Jou so as to obtain a method for pre-processing access plan from a query. This combination would provide a method enabling to optimize derived table evaluation and to eliminate the table access operations in evaluation of a query increases efficiency (Jou – col. 8, lines 60-65) in the relational database management environment.

With respect to claims 8-9, Boykin discloses the method as discussed in claim 1.

Boykin does not explicitly indicate, “gathering statistics on the use of the executable function; and a pause for receiving user input before or after the call to the executable function.”

However, Jou discloses gathering statistics data (col. 11, lines 38-51; also col. 12, lines 32-67 and col. 13, lines 1-15) and receiving user input as claimed (col. 12, lines 18-45).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Boykin with the teachings of Jou so as to obtain a method for pre-processing access plan from a query. This combination would provide a method enabling to optimize derived table evaluation and to eliminate the table access operations in evaluation of a query increases efficiency (Jou – col. 8, lines 60-65) in the relational database management environment.

Claims 13-14 are essentially the same as claims 4-5 except that it is directed to a computer program product rather than a method (col. 10, lines 10-67, col. 11, lines 1-14

and also see col. 3, lines 20-36), and are rejected for the same reason as applied to the claims 4-5 hereinabove.

Claims 17-19 are essentially the same as claims 8-9 except that it is directed to a computer program product rather than a method (col. 11, lines 38-51; also col. 12, lines 32-67 and col. 13, lines 1-15; and col. 12, lines 18-45), and are rejected for the same reason as applied to the claims 8-9 hereinabove.

With respect to claims 20-22, Boykin discloses the method as discussed in claim 19. Also Boykin discloses adding another pointer (see fig 2, col. 4, lines 20-34 and 6, 36-42).

Boykin does not explicitly indicate, "replacing said operation codes; storing information and data structure."

However, Jou discloses replacing operation as claimed col. 14, lines 26-45); data structure for storing information as claimed (col. 10, lines 10-67, col. 11, lines 1-14 and also see col. 3, lines 20-36).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Boykin with the teachings of Jou so as to obtain a method for pre-processing access plan from a query. This combination would provide a method enabling to optimize derived table evaluation and to eliminate the table access operations in evaluation of a query increases efficiency (Jou – col. 8, lines 60-65) in the relational database management environment.



**Contact Information**

7. Any inquiry concerning this communication should be directed to Anh Ly whose telephone number is (703) 306-4527 or via E-Mail: **ANH.LY@USPTO.GOV**. The examiner can be reached on Monday – Friday from 8:00 AM to 4:00 PM.

If attempts to reach the examiner are unsuccessful, see the examiner's supervisor, Kim Vu, can be reached on (703) 305-4393.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 746-7238 (after Final Communication)


or: (703) 746-7239 (for formal communications intended for entry)

or: (703) 746-7240 (for informal or draft communications, or Customer Service Center, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Inquiries of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

AL<sup>1</sup>  
Oct. 24<sup>th</sup>, 2002.

  
HOSAIN T. ALAM  
PRIMARY EXAMINER